

USAID Country Health Statistical Report

Ghana

June 2005



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About the Report

Released June 2005

This report is one of a series of Country Health Statistical Reports produced on behalf of the United States Agency for International Development (USAID) by the Population, Health and Nutrition Information (PHNI) Project. Each profile contains statistical data on current health conditions, population dynamics, health and family planning behavior, and health and population trends in a given developing country. Information is compiled from PHNI's health statistics database, which draws data from a diverse range of sources listed at the end of this profile.

Hard copy editions of USAID's profiles are available from PHNI'S publications department. Reports are available on the USAID Global Health Web site in Portable Document Format (pdf). Any feedback you have on the content or presentation of this report would be greatly appreciated. We would also appreciate receiving any more recent, more accurate, or more representative information. Contact us at the following:



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I. Statistical Overview

*see data notes

Demographic Indicators				
Indicator	Value	Data Unit	Year	Source
Total Population	20,757,032		2004	BUCEN-IDB-2004
Population Growth Rate	1.4	%	2004	BUCEN-IDB-2004
Percent Urban	36.7	%	2002	World Bank/WDI-2004
Women, 15-19	1,224,717		2004	BUCEN-IDB-2004
Women, 15-49	5,327,662		2004	BUCEN-IDB-2004
Life Expectancy at Birth	56.3		2004	BUCEN-IDB-2004
Crude Birth Rate	24.9	per 1,000	2004	BUCEN-IDB-2004
Crude Death Rate	10.7	per 1,000	2004	BUCEN-IDB-2004
Number of Live Births	516,850		2004	BUCEN-IDB-2004

Socioeconomic Indicators				
Indicator	Value	Data Unit	Year	Source
GNI per Capita (PPP)	2,080	\$	2002	World Bank/WDI-2004
Health Expenditure as Percentage of GDP	4.7	%	2001	World Bank/WDI-2004
Physicians per 1,000 People	0.06	per 1,000	1996	World Bank/WDI-2004
Adult Literacy Rate	73.8	%	2002	World Bank/WDI-2004
Adult Literacy Rate, Female	65.9	%	2002	World Bank/WDI-2004
Adult Literacy Rate, Male	81.9	%	2002	World Bank/WDI-2004
Gross Enrollment Rate - Primary School	80.2	%	2000	UNESCO-2003/4
Gender Parity Index - Net Enrollment Rate	0.95		2000	UNESCO-2003/4
Access to an Improved Water Source (Rural)	62	%	2000	World Bank/WDI-2004
Access to an Improved Water Source (Urban)	91	%	2000	World Bank/WDI-2004
Access to Improved Sanitation Facilities (Rural)	70	%	2000	World Bank/WDI-2004
Access to Improved Sanitation Facilities (Urban)	74	%	2000	World Bank/WDI-2004

Family Planning Indicators				
Indicator	Value	Data Unit	Year	Source
Total Fertility Rate (BUCEN)	3		2005	BUCEN-IDB-2002
Total Fertility Rate (DHS)	4.4		2003	Ghana DHS-2003
Contraceptive Prevalence Rate, Modern Methods, All Women	15.3	%	2003	Ghana DHS-2003
Contraceptive Prevalence Rate, Modern Methods, Married Women	18.7	%	2003	Ghana DHS-2003
Median Age of Sexual Debut Among Women, Ages 25-49	18.2		2003	Ghana DHS-2003
Mean Ideal Family Size	4.4		2003	Ghana DHS-2003
Women 20-24 Who Gave Birth Before Age 20	34.6	%	2003	Ghana DHS-2003

Maternal Health Indicators											
Indicator	Value	Data Unit	Year	Source							
Maternal Mortality Ratio (WHO/Hill)	540	Per 100,000 live births	2000	WHO/Hill-2004							
Maternal Mortality Ratio (DHS)		Data Not Ava	ailable								
Antenatal Care (at least 1 visit)	90.1 ¹	%	2003	Ghana DHS-2003							
Antenatal Care (2+ visits)	86.1 ²	%	2003	Ghana DHS-2003							
Antenatal Care (4+ visits)	69.4 ³	%	2003	Ghana DHS-2003							
Assisted Delivery by a Health Professional	47.1	%	2003	Ghana DHS-2003							
Assisted Delivery by Doctor	6.6	%	2003	Ghana DHS-2003							
Assisted Delivery by Other Health Professional	40.5	%	2003	Ghana DHS-2003							

 ¹ The value for this country represents data from the five-year period preceding the survey.
 ² The value for this country represents data from the five-year period preceding the survey.
 ³ The value for this country represents data from the five-year period preceding the survey.

Child Survival Indicators				
Indicator	Value	Data Unit	Year	Source
Acute Respiratory Infection (ARI) and Oral Rehydr	ation The	rapy (ORT)	•	
ARI Treatment - Children Under 5	44	%	2003	Ghana DHS-2003
ORT Use Rate (ORS, RHS, or Increased Fluids)	63.3	%	2003	Ghana DHS-2003
Mortality Indicators				
Infant Mortality Rate (BUCEN)	51.4	per 1,000 live births	2005	BUCEN-IDB-2002
Infant Mortality Rate (DHS)	64	per 1,000 live births	2003	Ghana DHS-2003
Infant Mortality Rate, Females (BUCEN)	48.5	per 1,000 live births	2005	BUCEN-IDB-2002
Infant Mortality Rate, Males (BUCEN)	54.3	per 1,000 live births	2005	BUCEN-IDB-2002
Under-5 Mortality Rate (BUCEN)	87	per 1,000 live births	2005	BUCEN-IDB-2003
Under-5 Mortality Rate (UNICEF)	97	per 1,000 live births	2002	UNICEF-2004
Under-5 Mortality Rate (DHS)	111	per 1,000 live births	2003	Ghana DHS-2003
Nutrition Indicators				
Exclusive Breastfeeding (under 4 mos.)	63.6	%	2003	Ghana DHS-2003
Exclusive Breastfeeding (under 6 mos.)	53.4	%	2003	Ghana DHS-2003
Stunted (height-for-age)	29.9	%	2003	Ghana DHS-2003
Underweight (weight-for-age)	22.1	%	2003	Ghana DHS-2003
Wasted (weight-for-height)	7.1	%	2003	Ghana DHS-2003
Vaccination Coverage				
DPT3 Vaccination Rate (DHS)	79.5	%	2003	Ghana DHS-2003
DPT3 Vaccination Rate (WHO)	80	%	2002	WHO/Global Summary-2003
Measles Vaccination Rate (DHS)	83.2	%	2003	Ghana DHS-2003
Measles Vaccination Rate (WHO)	81	%	2002	WHO/Global Summary-2003
Polio Vaccination Rate (DHS)	79.2	%	2003	Ghana DHS-2003
Polio Vaccination Rate (WHO)	80	%	2002	WHO/Global Summary-2003
Tetanus Toxoid Vaccination	50.4 ¹	%	2003	Ghana DHS-2003

¹ The value for this country represents data from the five-year period preceding the survey.

HIV/AIDS Prevention Indicators				
Indicator	Value	Data Unit	Year	Source
HIV Prevalence proportion: Adults (15–49 years)	3.1	%	2003	UNAIDS-2004
Estimated number of people living with HIV: Adults and Children	350,000		2003	UNAIDS-2004
Estimated number of people living with HIV: Women (15–49 years)	180,000		2003	UNAIDS-2004
Estimated number of people living with HIV: Children (0–14 years)	24,000		2003	UNAIDS-2004
Males Reporting Condom Use With Last Non-Regular Partner	44.8	%	2003	Ghana DHS-2003
Females Reporting Condom Use With Last Non-Regular Partner	28	%	2003	Ghana DHS-2003

Infectious Diseases Control Indicators										
Indicator	Value	Data Unit	Year	Source						
TB Estimated Number of Cases	43,104		2002	WHO/TB Control Report-2004						
TB Case Detection Rate	41	%	2002	WHO/TB Control Report-2004						
TB (DOTS) Treatment Success Rate	42	%	2001	WHO/TB Control Report-2004						
Malaria Cases per 100,000	17,143	per 100,000	2001	WHO/RBM-2004						

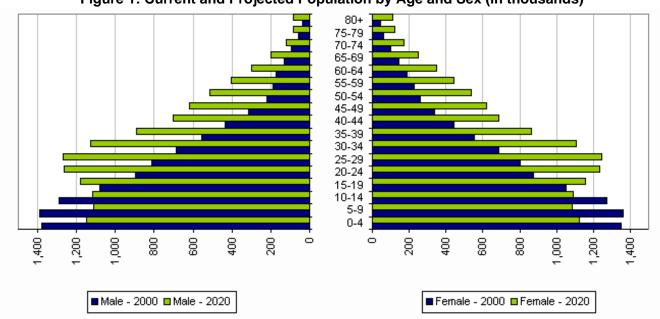


Figure 1: Current and Projected Population by Age and Sex (in thousands)

Table 1.1: Current and Projected Population by Age and Sex

Source: BUCEN-IDB

Source: Book 14-155											
Age Group	Male - 2000	Male - 2020	Female - 2000	Female - 2020							
0-4	1,380,166	1,150,963	1,348,675	1,123,330							
5-9	1,391,622	1,111,513	1,363,941	1,087,176							
10-14	1,288,729	1,115,740	1,270,813	1,092,315							
15-19	1,080,380	1,180,734	1,052,884	1,156,481							
20-24	896,176	1,261,946	876,337	1,236,252							
25-29	812,261	1,268,443	805,215	1,245,745							
30-34	688,211	1,125,746	688,004	1,109,179							
35-39	554,712	892,154	556,243	865,586							
40-44	434,010	703,366	445,517	686,094							
45-49	314,599	616,850	335,476	621,426							
50-54	220,370	511,499	258,170	537,563							
55-59	189,608	402,006	225,510	440,039							
60-64	171,640	299,273	189,668	348,602							
65-69	133,678	198,843	142,611	249,569							
70-74	92,994	122,136	98,629	172,259							
75-79	56,663	84,571	60,778	123,316							
80+	39,237	82,164	45,713	112,875							

TABLE 1.2: Population Estimates and Projections

Source: BUCEN-IDB

1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
6,958,283	8,788,945	11,015,603	15,399,840	19,509,240	22,230,110	24,335,754	26,335,466	28,106,162	29,845,538

Figure 2: Estimated Total Fertility Rate per Woman

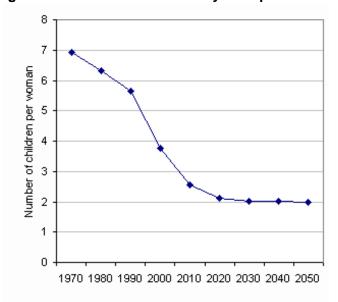


Table 2: Estimated Total Fertility Rate per Woman

Source: BUCEN-IDB

1970	1980	1990	2000	2010	2020	2030	2040	2050
6.9	6.3	5.7	3.8	2.5	2.1	2.0	2.0	2.0

Figure 3: Infant Mortality Rates / Under-5 Mortality Rates

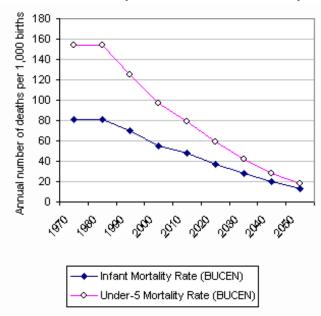


Table 3: Infant Mortality Rates / Under-5 Mortality Rates

Source: BUCEN-IDB 2002

Indicator	1970	1980	1990	2000	2010	2020	2030	2040	2050
Infant Mortality Rate (BUCEN)	81.3	81.3	69.7	55.5	47.6	37.4	27.8	19.6	13.3
Under-5 Mortality Rate (BUCEN)	153.7	153.7	124.5	97.0	78.5	58.8	41.7	27.8	17.7

Figure 4: Vaccination Coverage (DPT3) Trends

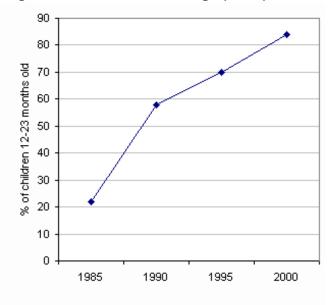


Table 4: Vaccination Coverage (DPT3) Trends

Source: WHO/Global Summary 1985 1990 1995 2000 22.0 58.0 70.0 84.0

Figure 5: Contraceptive Prevalence Rates, Modern Methods, Married Women

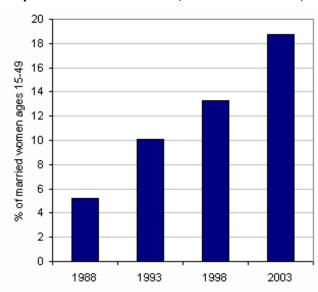


Table 5: Contraceptive Prevalence Rates, Modern Methods, Married Women

Source: Ghana DHS

1988	1993	1998	2003
5.2	10.1	13.3	18.7

Data Notes

*Indicator definitions that differ from those in the data notes section are identified by footnotes accompanying the indicator tables.

Demographic	c Indicators
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Total Population The number of people in a given area (i.e., country) in a particular time period (usually a midyear

estimate).

Population Growth Rate The average annual growth rate is the rate of natural increase in a population plus the net migration

rate. The rate of natural increase is the difference between the birth rate and the death rate, but it is

conventionally measured in percentage terms (per hundred rather than per thousand).

Percent Urban The percentage of the midyear population living in areas defined as urban in each country and reported

to the United Nations.

Women, 15-19 The number of women between the ages of 15-19 in the midyear population.

Women, 15-49 The number of women between the ages of 15-49 in the midyear population.

Life Expectancy at Birth The average number of years that a person at age 0 will live if age-specific death rates remain constant.

Life expectancy at birth is highly affected by rates of infant and child death.

Crude Birth Rate The number of births per thousand of the population. The product of the number of live births, divided by

the midpoint population, multiplied by 1,000.

Crude Death Rate The number of deaths per thousand of the population. The product of the number of deaths divided by

the midpoint population, multiplied by 1,000.

Number of Live Births The number of live births, annually, within a country.

Socioeconomic Indicators

GNI per Capita (PPP) The gross national income (GNI) converted to international dollars using purchasing power parity (PPP)

rates. An international dollar has the same purchasing power over GNI as a U.S. dollar has in the

United States.

Health Expenditure as Percentage of GDP Total health expenditures is the sum of public and private health expenditures figured as a percentage of a country's gross domestic product (GDP). It covers the provision of health services (preventive and

curative), family planning activities, nutrition activities, and emergency aid designated for health but

does not include provision of water and sanitation.

Physicians per 1,000 People

Physicians are defined as graduates of any faculty or school of medicine who are working in the country

in any medical field (practice, teaching, research).

Adult Literacy Rate The percentage of people ages 15 and over who can, with understanding, read and write a short, simple

statement about their everyday life.

Adult Literacy Rate, Female

The percentage of women ages 15 and over who can, with understanding, read and write a short,

simple statement about their everyday life.

Adult Literacy Rate, Male The percentage of men ages 15 and over who can, with understanding, read and write a short, simple

statement about their everyday life.

Gross Enrollment Rate - Primary School

Total enrolment in primary level of education, regardless of age, expressed as a percentage of the official school-age population corresponding to primary level of education in give school-year. GER can be over 100% due to the inclusion of over-aged and under-aged pupils/students because of early or late

entrants, and grade repetition.

Gender Parity Index - Net Enrollment Rate

The ratio of the female-to-male net primary school enrollment rates measures progress towards gender equity in school attendance and the level of learning opportunities available for women in relation to those available to men. Calculation Method: Divide the female net primary school enrollment rate by the male net primary school enrollment rate.

Access to an Improved Water Source (Rural)

Access to an improved water source in rural areas. Refers to the percentage of the rural population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, or rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 20 liters a person a day from a source within one kilometer of the dwelling.

Access to an Improved Water Source (Urban)

Access to an improved water source in urban areas. Refers to the percentage of the urban population with reasonable access to an adequate amount of water from an improved source, such as a household connection, public standpipe, borehole, protected well or spring, or rainwater collection. Unimproved sources include vendors, tanker trucks, and unprotected wells and springs. Reasonable access is defined as the availability of at least 20 liters a person a day from a source within one kilometer of the dwelling.

Access to Improved Sanitation Facilities (Rural)

Access to improved sanitation facilities in rural areas. Refers to the percentage of the rural population with access to at least adequate excreta disposal facilities (private or shared, but not public) that can effectively prevent human, animal, and insect contact with excreta.

Access to Improved Sanitation Facilities (Urban)

Access to improved sanitation facilities in urban areas. Refers to the percentage of the urban population with access to at least adequate excreta disposal facilities (private or shared, but not public) that can effectively prevent human, animal, and insect contact with excreta.

Family Planning Indicators

Total Fertility Rate (BUCEN)

The number of children a woman between ages 15-49 would have during her reproductive life, if, for all of her childbearing years she were to experience the age-specific birth rates for that given year.

Total Fertility Rate (DHS)

The number of children a woman between ages 15-49 would have during her lifetime if she were to bear children at the currently observed rates.

Contraceptive Prevalence Rate, Modern Methods, All Women Percentage of all women ages 15-49 currently using a modern method of contraception. Modern methods include oral contraceptives, IUDs, injectables, female and male sterilization, all emergency contraception, and barrier methods (diaphragm, foam, jelly, male and female condom).

Contraceptive Prevalence Rate, Modern Methods, Married Women

Percent of currently married women ages 15-49 currently using a modern method of contraception. Modern methods include oral contraceptives, IUDs, injectables, female and male sterilization, all emergency contraception, and barrier methods (diaphragm, foam, jelly, male and female condom).

Median Age of Sexual Debut Among Women, Ages 25-49 Median age of first sexual intercourse for women ages 25-49.

Mean Ideal Family Size

Mean ideal number of children for all women, according to number of living children.

Women 20-24 Who Gave Birth Before Age 20

Percentage of women ages 20-24 who have given birth before age 20.

Maternal Health Indicators

Maternal Mortality Ratio (WHO/Hill)

The estimated number of women who die as a result of pregnancy or childbirth per 100,000 live births arrived through Hill et al., adjustment procedure depending on the nature of data used. The margins of uncertainty associated with the estimated maternal mortality ratios are very large and the estimates should not be used to monitor trends in the short term (including comparisons between 1995 and 2000 estimates). In addition, cross-country comparisons should be treated with considerable circumspection because different strategies are used to derive the estimates for different countries rendering comparisons fraught with difficulty. For further information please refer to the source.

Maternal Mortality Ratio (DHS)

The estimated number of women who die as a result of pregnancy or childbirth per 100,000 live births, arrived mostly through the "sisterhood method". The data are aggregated based on different time periods ranging from four to ten years preceding the survey. Thus, the data may not be suitable for trend analysis due to over-lapping year ranges of estimates. For further information on methodology please refer to: Stanton, Cynthia, Noureddine Abderrahim, and Kenneth Hill. 1997. DHS Maternal Mortality Indicators: An assessment of Data Quality and Implications for Data Use. Calverton: Macro International Inc., or individual country DHS reports.

Antenatal Care (at least 1 visit)

Percentage of women of reproductive age (15-49) who receive at least one antenatal care visit during pregnancy (in the three-year period preceding the survey).

Antenatal Care (2+ visits)

Percentage of women of reproductive age (15-49) who receive at least two antenatal care visits during pregnancy (in the three-year period preceding the survey).

Antenatal Care (4+ visits)

Percentage of women of reproductive age (15-49) who receive four or more antenatal care visits during pregnancy (in the three-year period preceding the survey).

Assisted Delivery by a Health Professional

The percentage of births/deliveries that occur with the assistance of any trained health professional during the five-year period preceding the survey. May include doctors, nurses, midwives, village health workers, or any other trained health professional.

Assisted Delivery by Doctor

The percentage of live births/deliveries that occur with the assistance of a doctor during the five-year period preceding the survey.

Assisted Delivery by Other Health Professional

The percentage of live births/deliveries that occur with the assistance of a nurse, midwife, village health worker, or any other trained health professional besides a doctor during the five-year period preceding the survey.

Child Survival Indicators

ARI Treatment - Children Under 5

Percentage of children under five years who were ill with an acute respiratory infection (ARI), which is associated with cough, rapid breathing and a high fever, during the two weeks preceding the survey, for whom treatment was sought from a health facility or provider.

ORT Use Rate (ORS, RHS, or Increased Fluids)

Oral Rehydration Therapy (ORT). Percentage of children under age 5 with diarrhea two weeks prior to survey who received increased fluids, oral rehydration solution (ORS) or recommended home solution (RHS).

Infant Mortality Rate (BUCEN)

The estimated annual number of deaths of infants under 12 months in a given year per 1,000 live births in that same year.

Infant Mortality Rate (DHS)

The estimated annual number of deaths of infants under 12 months in a given year per 1,000 live births in that same year (five-year period preceding survey).

Infant Mortality Rate, Females (BUCEN)

The estimated annual number of deaths of female infants under 12 months in a given year per 1,000 live births in that same year.

Infant Mortality Rate, Males (BUCEN)

The estimated annual number of male infants under 12 months in a given year per 1,000 live births in that same year.

Under-5 Mortality Rate (BUCEN)

Annual number of deaths that occur in children 0-4 years old per 1,000 births.

Under-5 Mortality Rate (UNICEF)

Annual number of deaths that occur in children 0-4 years old per 1,000 births (five-year period preceding survey).

Under-5 Mortality Rate (DHS)

Annual number of deaths that occur in children 0-4 years old per 1,000 births (five-year period preceding survey).

Exclusive Breastfeeding (under 4 mos.)

Percentage of children under 4 months exclusively breastfed. Exclusive breastfeeding is defined as providing no food or liquid other than breast milk to the child during the 24-hour period before the survey.

Exclusive Breastfeeding (under 6 mos.)

Percentage of children under 6 months exclusively breastfed. Exclusive breastfeeding is defined as providing no food or liquid other than breast milk to the child during the 24-hour period before the survey.

Stunted (height-for-age) Percentage of children under age five whose height-for-age is below minus-two standard deviations from the median of the reference population. Underweight (weight-for-Percentage of children under age five whose weight-for-age is below minus-two standard deviations age) from the median of the reference population. Wasted (weight-for-Percentage of children under age five whose weight-for-height is below minus-two standard deviations height) from the median of the reference population. **DPT3 Vaccination Rate** Proportion of living children 12-23 months old who have received three complete doses of vaccines (DHS) against diphtheria, pertussis, and tetanus. **DPT3 Vaccination Rate** Proportion of living children 12-23 months old who have received three complete doses of vaccines (WHO) aginst diphtheria, pertussis, and tetanus. **Measles Vaccination** Percentage of living children 12-23 months old who have received one dose of Measles Containing Rate (DHS) Vaccince. **Measles Vaccination** Percentage of living children 12-23 months old who have received one dose of Measles Containing Rate (WHO) Vaccince. **Polio Vaccination Rate** Proportion of living children 12-23 months who have received three doses of polio vaccine. (DHS) **Polio Vaccination Rate** Proportion of living children 12-23 months who have received three doses of polio vaccine. (WHO)

HIV/AIDS Prevention Indicators

HIV Prevalence proportion is the estimated number of adults living with HIV divided by the proportion: Adults (15–49 adult population (aged 15–49).

preceding survey).

Estimated number of people living with HIV: Adults and Children

Tetanus Toxoid

Vaccination

Estimated number of adults and children living with HIV. Children are defined as those aged 0–14 years.

Percentage of pregnant women receiving two (or more) doses of tetanus toxoid (three-year period

Estimated number of people living with HIV: Women (15–49 years)

Estimated number of women (aged 15-49) living with HIV.

Estimated number of people living with HIV: Children (0–14 years)

Estimated number of children under age 15 living with HIV.

Males Reporting Condom Use With Last Non-Regular Partner Among men who have had sex in the last year, percentage who used condoms during their last sexual intercourse with a non-regular partner/non-cohabitating partner.

Females Reporting Condom Use With Last Non-Regular Partner

100,000

Among women who have had sex in the last year, percentage who used condoms during their last sexual intercourse with a non-regular partner/non-cohabitating partner.

Infectious Diseases Control Indicators

The estimated number of cases (all forms).

The case Detection Rate is defined as the percentage of the annual new smear-positive notifications of the estimated annual new smear-positive incidence.

The proportion of smear-positive patients who were cured plus the proportion who completed treatment.

Success Rate

Malaria Cases per

Number of malaria cases per 100,000 of the population during the year for which data was reported.

Statistical Sources For Ghana

BUCEN-IDB 2002	United States Census Bureau (BUCEN), International Programs Center. International Database. October 2002.
BUCEN-IDB 2003	United States Census Bureau (BUCEN), International Programs Center. International Database. July 2003.
BUCEN-IDB 2004	United States Census Bureau (BUCEN), International Programs Center. International Database. April 2004.
Ghana DHS 1988	Ghana Statistical Service, and Institute for Resource Development/Macro Systems, Inc. Ghana Demographic and Health Survey 1988. Columbia, MD: IRD, 1989.
Ghana DHS 1993	Ghana Statistical Service (GSS) and Macro International Inc. (MI). 1994. Ghana Demographic and Health Survey 1993. Calverton, Maryland: GSS and MI.
Ghana DHS 1998	Ghana Statistical Service (GSS) and Macro International Inc. (MI). 1999. Ghana Demographic and Health Survey 1998. Calverton, Maryland: Ghana Statistical Service and Macro International Inc.
Ghana DHS 2003	Ghana Statistical Service, Noguchi Memorial Institute for Medical Research, and ORC Macro. Ghana Demographic and Health Survey 2003. Calverton, MD: 2004.
UNAIDS 2004	Report on the Global HIV/AIDS Epidemic: 4th Global Report. July 2004. The Joint United Nations Programme on HIV/AIDS, Geneva.
UNESCO 2003/4	EFA Global Monitoring Report. Gender and Education for All: The Leap to Equality. United Nations Educational, Scientific and Cultural Organization, Paris. 2003
UNICEF 2004	UNICEF Web site. Progress since the World Summit for Children. www.childinfo.org/cmr/revis/db2.htm. Data accessed on Web site in May 2004.
WHO/Global Summary 2002	WHO Vaccine-Preventable Diseases Monitoring System. 2002 Global Summary. World Health Organization, Geneva.
WHO/Global Summary 2003	WHO Vaccine-Preventable Diseases: Monitoring System. 2003 Global Summary. World Health Organization, Geneva.
WHO/Hill 2004	Kenneth Hill, Carla Abou Zahr & Tessa Wardlaw: Maternal mortality in 2000. Estimates developed by WHO, UNICEF and UNFPA, 2004.
WHO/RBM 2004	WHO-Roll Back Malaria Web site. A Global Partnership. http://www.who.int/rbm. Data accessed on web site in January 2004.
WHO/TB Control Report 2004	Global Tuberculosis Control: Surveillance, Planning, Financing. WHO Report 2004. World Health Organization, Geneva.
World Bank/WDI 2004	World Bank Development Indicators 2004, CD-Rom. Washington, DC: The World Bank, 2004.